

Question Paper

Exam Date & Time: 01-Jul-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER M.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - JUNE/JULY 2022
SUBJECT: MIT5203 - ADVANCED INSTRUMENTATION AND TECHNIQUES IN MRI-I
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the various site selection, planning, shielding and safety requirements during installation of MR scanner. (20)
- 2) Outline the various factors influencing the image contrast in MRI. Explain techniques to improve the contrast to noise ratio. (20)

3. Explain the following:

- 3A) Explain the gradient construction and its characteristics. Elaborate on the time varying magnetic field effects. (10)
- 3B) What is receive bandwidth? Discuss the influence of receive bandwidth on image quality. (10)
- 3C) Identify methods to reduce intra-voxel dephasing. (10)
- 3D) Explain various sequences for the evaluation of stroke. (10)

4. Short notes:

- 4A) Outline slice selection gradient. (5)
- 4B) What is SAR? Elaborate on RF irradiation and safety measures. (5)
- 4C) Explain factors affecting time of flight effect. (5)
- 4D) Compare Spin echo and gradient echo sequences. (5)

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Question Paper

Exam Date & Time: 04-Jul-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER M.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - JUNE/JULY 2022
SUBJECT: MIT5204 - CARE OF PATIENTS IN DIAGNOSTIC IMAGING
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the infection control procedures in the radiology department. Add a note on radiography of isolation patients. (20)
- 2) Discuss the acute situation that may arise in the radiology department and role of medical imaging technologist in such situations. (20)

3. Explain the following:

- 3A) Summarise the standard of ethics for radiographers. (10)
- 3B) Discuss the age specific care and communication with the patients. (10)
- 3C) Explain in detail about electronic patient monitoring. (10)
- 3D) Elaborate the routes of medication administration with examples. (10)

4. Short notes:

- 4A) Discuss restraints and immobilization technique used during radiography. (5)
- 4B) Discuss accreditation of health care facilities. (5)
- 4C) Outline body's defense against infection. (5)
- 4D) Explain medical recording by radiographers. (5)

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